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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,234	12/12/2003	Makoto Kimura	50353-627	9483
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McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096		EXAMINER CHAU, COREY P		
		ART UNIT PAPER NUMBER		
		2644		

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/733,234

Applicant(s)

KIMURA, MAKOTO

Examiner

Corey P. Chau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, and 5-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 6, 7, 10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 3995124 to Gabr in view of U.S. Patent No. 6272360 to Yamaguchi et al. (hereafter as Yamaguchi).
3. Regarding Claim 1, Gabr discloses a vocal sound input apparatus (i.e. noise canceling microphone) for an automotive vehicle (column 1, lines 8-19), comprising: a receiving microphone (14); and a noise collecting microphone (16), both of the receiving microphone and the noise collecting microphone being disposed at a predetermined portion of a vehicle body in such a manner that a sensitivity direction of the receiving microphone is opposite to a sensitivity direction of the noise collecting microphone (Fig. 1; column 1, lines 26-34), wherein: both of the receiving microphone and the noise collecting microphone are mounted to each other (Fig. 1), the sensitivity direction of the receiving microphone is oriented towards inside of a vehicular passenger compartment (column 1; lines 8-20; column 2, lines 41-51). Gabr discloses a noise canceling microphone, which is mounted in a vehicle, but only generally; no specific hardware or software is taught. Therefore it would have been obvious to one

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having ordinary skill in the art to seek known locations in a vehicle to mount a microphone. Yamaguchi discloses a transmitter (i.e. noise canceling microphone) mounted in a vehicle, wherein the transmitter is provided with a fastening fitting, which attaches transmitter to a sun visor or the like (Figs. 22-23; column 12, line 64 to column 13, line 8). It would have been obvious to one having ordinary skill in the art to employ any known locations in a vehicle to mount a microphone. Therefore it would have been obvious to one having ordinary skill in the art to modify Gabr with the teaching of Yamaguchi to provide the noise canceling microphone of Gabr with a fastening fitting, which attaches transmitter to a sun visor or the like. Therefore the sensitivity direction of the noise collecting microphone (16) is oriented towards a space between a vehicle body outer plate and a wall of the vehicular passenger compartment (i.e. when the noise canceling microphone is provided with a fastening fitting, which attaches the noise canceling microphone to a sun visor, the transducer 14 is directed to the user's mouth and the transducer 16, which is opposite to the transducer 14, therefore provide a sensitivity direction aimed at the headliner or ceiling of the vehicle, which reads on sensitivity direction of the noise collecting microphone is **oriented towards** a space between a vehicle body outer plate and a wall of the vehicular passenger compartment).

4. All elements of Claim 5 are comprehended by Claim 1. Claim 5 is rejected for the reasons stated above apropos to Claim 1.

5. Regarding Claim 6, Gabr as modified discloses the microphone assembly comprises: a first plate (22) having a first circular center hole into which the

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receiving microphone is fitted, a second plate (22) juxtaposed to the first plate and having a center hole into which the noise collecting microphone is fitted (column 2, lines 28-40); a third plate having a third circular center hole with its center point through which a first line denoting the sensitivity direction of the receiving microphone is penetrated; and a fourth plate having a fourth circular center hole with its center point through which a second line denoting the sensitivity direction of the noise collecting microphone is penetrated (Figs 2 and 3; column 3, line 59 to column 4, line 40), both of the first line and the second line being on the same line but the directions thereof being mutually 180.degree. opposite to each other (Fig. 1).

6. All elements of Claim 7 are comprehended by Claim 1. Claim 7 is rejected for the reasons stated above apropos to Claim 1.

7. Regarding Claim 10, Gabr as modified discloses the noise collecting microphone is connected to an adder, via an inverter and the receiving microphone is connected to the adder and an output of the adder is connected to a voice recognition system mounted in the vehicle (column 2, lines 52-59).

8. Claim 13 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.

9. Claim 14 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.

10. Claim 15 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1 (Fig. 1; column 1, lines 4-7; column 1, line 46 to

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column 2, line 2; Yamaguchi, Figs. 22-23; column 12, line 64 to column 13, line 8).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 3995124 to Gabr in view of U.S. Patent No. 6272360 to Yamaguchi as applied to claims 1, 5, 6, 7, 10, and 13-15 above, and further in view of U.S. Patent Application Publication No. 20050156753 to DeLine et al. (hereafter as DeLine).

12. Regarding Claim 11, Gabr as modified discloses one of the microphones is connected to an adder via an inverter, and the other one of the microphones is connected to the adder (column 2, lines 52-59; column 1, lines 46-68), but does not expressly disclose an output of the adder is connected to a hand-free telephone apparatus mounted in the vehicle. DeLine discloses many vehicle today use hands-free cellular telephones or other communication devices to avoid problems which may arise when a driver of a vehicle has to hold a telephone while driving the vehicle (page 1, paragraph 0003; page 4, paragraph 0035). Therefore it would have been obvious to one having ordinary skill in the art to modify Gabr as modified with the teaching of DeLine to utilize the noise canceling microphone in association with a hands-free cellular telephones or other communication devices to avoid problems which may arise when a driver of a vehicle has to hold a telephone while driving the vehicle, which provide a hands-free cellular system substantial freedom from echoes and noises, such as ambient or field noises.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 3995124 to Gabr in view of U.S. Patent No. 6272360 to Yamaguchi as applied to claims 1, 5, 6, 7, 10, and 13-15 above, and further in view of U.S. Patent No. 6748308 to Losey.

14. Regarding Claim 12, Gabr does not expressly disclose a vehicle speed sensor is connected to a switch to connect the noise collecting microphone to the inverter when a vehicle speed detected by the vehicle speed sensor is equal to or higher than a predetermined vehicle speed. However it would have been obvious to one having ordinary skill in the art to provide such a vehicle speed sensor connected to a switch connect the noise collecting microphone to the inverter when a vehicle speed detected by the vehicle speed sensor is equal to or higher than a predetermined vehicle speed in order reduce noise when noise is equal to or higher than a predetermined vehicle speed because the noise generated increases as the vehicle speed increases as taught by Losey. Losey teaches that a high speed of a vehicle may cause excessive noise, which may be bothersome to drivers and/or passengers of the vehicle (column 1, lines 19-36). Losey discloses a vehicle speed sensor in use with a switch to activate or deactivate a feature of a vehicle when the speed of the vehicle is above a threshold in order to reduce noise (column 3, lines 3-30; column 3, line 58 to column 4, line 19). Although Losey discloses activation or deactivation of power windows system, Losey teaches that as the speed of the vehicle increases, the noise generated increases and therefore to perform an operation to reduce the

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noise when the speed of the vehicle is above a threshold so that the noise does not become bothersome to drivers and/or passengers of the vehicle. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gabr with the teaching of Losey to utilize a vehicle speed sensor with a switch to activate or deactivate the noise receiving microphone when the speed of a vehicle is above a threshold in order to reduce noise when needed.

15. Claims 1, 5-11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 3995124 to Gabr in view of U.S. Patent Application Publication No. 20050156753 to DeLine.

16. Regarding Claim 1, Gabr discloses a vocal sound input apparatus (i.e. noise canceling microphone) for an automotive vehicle (column 1, lines 8-19), comprising: a receiving microphone (14); and a noise collecting microphone (16), both of the receiving microphone and the noise collecting microphone being disposed at a predetermined portion of a vehicle body in such a manner that a sensitivity direction of the receiving microphone is opposite to a sensitivity direction of the noise collecting microphone (Fig. 1; column 1, lines 26-34), wherein: both of the receiving microphone and the noise collecting microphone are mounted to each other (Fig. 1), the sensitivity direction of the receiving microphone is oriented towards inside of a vehicular passenger compartment (column 1; lines 8-20; column 2, lines 41-51). Gabr discloses a noise canceling microphone, which is mounted in a vehicle, but only generally; no specific



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hardware or software is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known locations in a vehicle to mount a microphone. DeLine discloses a microphone system disposed in a microphone module, wherein the microphone module 10 is preferably secured to interior surface 12b of windshield 12 at an interface junction 26 between forward edge 14a of headliner 14 and interior surface 12a of windshield 12. In addition the microphone module 10 may be mounted in other locations and may optionally be mechanically secured to an intermediate mounting bracket adhered to the windshield, or may be connected to the headliner itself (Figs. 1-2; page 7, paragraph 0053; claims 18 and 28). It would have been obvious to one having ordinary skill in the art to employ any known locations in a vehicle to mount a microphone. Therefore it would have been obvious to one having ordinary skill in the art to modify Gabr with the teaching of DeLine to dispose the noise canceling microphone in a microphone module, wherein the microphone module 10 is preferably secured to interior surface 12b of windshield 12 at an interface junction 26 between forward edge 14a of headliner 14 and interior surface 12a of windshield 12. In addition the microphone module 10 may be mounted in other locations and may optionally be mechanically secured to an intermediate mounting bracket adhered to the windshield, or may be connected to the headliner itself. Therefore the sensitivity direction of the noise collecting microphone (16) is **oriented towards** a space between a vehicle body outer plate and a wall of the vehicular passenger compartment (i.e. when the noise canceling microphone is disposed in the microphone module, the transducer 14

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is directed to the user's mouth and the transducer 16, which is opposite to the transducer 14, therefore provide a sensitivity direction aimed at the headliner or ceiling of the vehicle, which reads on sensitivity direction of the noise collecting microphone is **oriented towards** a space between a vehicle body outer plate and a wall of the vehicular passenger compartment).

17. All elements of Claim 5 are comprehended by Claim 1. Claim 5 is rejected for the reasons stated above apropos to Claim 1.

18. Regarding Claim 6, Gabr as modified discloses the microphone assembly comprises: a first plate (22) having a first circular center hole into which the receiving microphone is fitted, a second plate (22) juxtaposed to the first plate and having a center hole into which the noise collecting microphone is fitted (column 2, lines 28-40); a third plate having a third circular center hole with its center point through which a first line denoting the sensitivity direction of the receiving microphone is penetrated; and a fourth plate having a fourth circular center hole with its center point through which a second line denoting the sensitivity direction of the noise collecting microphone is penetrated (Figs 2 and 3; column 3, line 59 to column 4, line 40), both of the first line and the second line being on the same line but the directions thereof being mutually 180.degree. opposite to each other (Fig. 1).

19. All elements of Claim 7 are comprehended by Claim 1. Claim 7 is rejected for the reasons stated above apropos to Claim 1.

20. Regarding Claim 8, Gabr as modified discloses the microphone assembly further comprises a bracket having an attachment hole to a peripheral wall to

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which the engagement portions of the microphone assembly is engaged and the bracket is fixed to the interior trim material of the roof portion by means of fixing means, the first line being oriented toward the vehicular passenger compartment and the second line being oriented toward the roof portion of a vehicular outer plate (DeLine, Figs. 1-2; page 7, paragraph 0053; claims 18 and 28).

21. All elements of Claim 9 are comprehended by Claim 1. Claim 9 is rejected for the reasons stated above apropos to Claim 1 (DeLine, Figs. 1-3, 6, and 8; page 7, paragraph 0053; claims 18 and 28).

22. Regarding Claim 10, Gabr as modified discloses the noise collecting microphone is connected to an adder, via an inverter and the receiving microphone is connected to the adder and an output of the adder is connected to a voice recognition system mounted in the vehicle (column 2, lines 52-59).

23. Regarding Claim 11, Gabr as modified discloses one of the microphones is connected to an adder via an inverter, and the other one of the microphones is connected to the adder (column 2, lines 52-59; column 1, lines 46-68), but does not expressly disclose an output of the adder is connected to a hand-free telephone apparatus mounted in the vehicle. DeLine discloses many vehicle today use hands-free cellular telephones or other communication devices to avoid problems which may arise when a driver of a vehicle has to hold a telephone while driving the vehicle. Therefore it would have been obvious to one having ordinary skill in the art to modify Gabr as modified with the teaching of DeLine to utilize the noise canceling microphone in association with a hands-free cellular telephones or other communication devices to avoid problems which may

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arise when a driver of a vehicle has to hold a telephone while driving the vehicle, which provide a hands-free cellular system substantial freedom from echoes and noises, such as ambient or field noises.

24. Claim 13 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.

25. Claim 14 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.

26. Claim 15 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1 (Fig. 1; column 1, lines 4-7; column 1, line 46 to column 2, line 2; DeLine, Figs. 1-2; page 7, paragraph 0053; claims 18 and 28).

27. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 3995124 to Gabr in view of U.S. Patent Application Publication No. 20050156753 to DeLine as applied to claims 1, 5-11, and 13-15 above, and further in view of U.S. Patent No. 6748308 to Losey.

28. Regarding Claim 12, Gabr does not expressly disclose a vehicle speed sensor is connected to a switch to connect the noise collecting microphone to the inverter when a vehicle speed detected by the vehicle speed sensor is equal to or higher than a predetermined vehicle speed. However it would have been obvious to one having ordinary skill in the art to provide such a vehicle speed sensor connected to a switch connect the noise collecting microphone to the inverter when a vehicle speed detected by the vehicle speed sensor is equal to or higher than a predetermined vehicle speed in order reduce noise when noise

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is equal to or higher than a predetermined vehicle speed because the noise generated increases as the vehicle speed increases as taught by Losey. Losey teaches that a high speed of a vehicle may cause excessive noise, which may be bothersome to drivers and/or passengers of the vehicle (column 1, lines 19-36). Losey discloses a vehicle speed sensor in use with a switch to activate or deactivate a feature of a vehicle when the speed of the vehicle is above a threshold in order to reduce noise (column 3, lines 3-30; column 3, line 58 to column 4, line 19). Although Losey discloses activation or deactivation of power windows system, Losey teaches that as the speed of the vehicle increases, the noise generated increases and therefore to perform an operation to reduce the noise when the speed of the vehicle is above a threshold so that the noise does not become bothersome to drivers and/or passengers of the vehicle. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gabr with the teaching of Losey to utilize a vehicle speed sensor with a switch to activate or deactivate the noise receiving microphone when the speed of a vehicle is above a threshold in order to reduce noise when needed.

### ***Response to Arguments***

29. Applicant's arguments with respect to claims 1, 5-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

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30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 8, 2005



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